

L 21846-66 EWA(h)/EWT(1)

ACC NR: AP6010718

SOURCE CODE: UR/0142/66/009/001/0008/0014

AUTHOR: Lebedev, I. V.; Betskiy, O. V.

ORG: none

TITLE: Increasing the gain of M-type microwave amplifiers 25

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 1, 1966, 8-14

TOPIC TAGS: amplifier design, magnetron, platinotron

ABSTRACT: The author reviews the factors which determine the efficiency of M-type crossed-field microwave amplifiers, in particular the magnetron configuration. Efforts to increase gain are concentrated on lowering the minimum input power required to form cycloidal electron trajectories in the interelectrode space. To increase efficiency without sacrificing gain, special electrode configurations must be resorted to, two examples of which are shown schematically in Fig. 1. The second scheme, which

Cord 1/2

UDC: 621.385633.24

L 21846-66

ACC NR: AP6010718

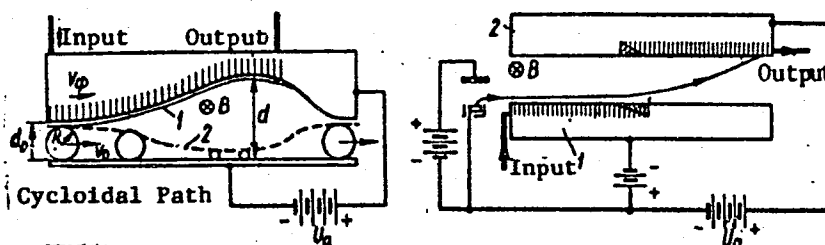


Fig. 1. M-amplifier variants

uses an impedance section on the cathode as well as on the anode, is preferable for its simpler design and also because it provides good suppression of parasitic feedback. Though improved designs of the type suggested may not approach the amplification attainable by O-type amplifiers, it should be possible to get M-types up to a gain of 40—50 db. Orig. art. has: 4 figures and 8 formulas. [SH]

SUB CODE: 09, 17/ SUBM DATE: 13May65/ ORIG REF: 002/ OTH REF: 010/ ATD PRESS: 4127

Cord 2/2 net

L 36197-66 EWT(1)
ACC NR: AP6011452

SOURCE CODE: UR/0109/66/011/004/0709/0720
28
24
B

AUTHOR: Betskiy, O. V.; Guttsayt, E. M.

ORG: none

TITLE: Balanced regenerative SHF amplifier 25

SOURCE: Radiotekhnika i elektronika, v. 11, no. 4, 1966, 709-720

TOPIC TAGS: SHF amplifier, regenerative amplifier, magnetron amplifier, waveguide filter

ABSTRACT: A slot-waveguide-bridge balanced circuit containing two regenerative magnetron amplifiers is considered; the bridge separates input and output signals. Fundamental design formulas for matched- and unmatched-load conditions are developed. The effect of nonidentical amplifier characteristics is explored, as is the effect of slot-bridge imperfections (perfect directivity but unequal power

UDC: 621.385.66 + 621.385.64

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L 36197-66
ACC NR: AP6011452

division, limited directivity). The effect of load mismatch on the balanced-circuit gain is investigated. Experimental amplitude, frequency, and load characteristics of a two pulsed-magnetron circuit measured at a 3-cm wavelength are presented. It is claimed that the balanced circuit, although having a 6-db lower gain, is simpler and more reliable than the ferrite-circulator circuit. The formulas developed in the article are applicable to any balanced regenerative amplifier. The introduction of a phase shifter into one of the bridge arms is recommended for phase equalization of both amplifiers. "The authors wish to thank I. V. Lebedev for initiating the work, and also MEI graduate students I. Vaynberg and S. Pervakov for their part in the investigations." Orig. art. has: 7 figures and 22 formulas.

SUB CODE: 09 / SUBM DATE: 29Dec64 / ORIG REF: 007 / OTH REF: 002

Card 2/2 *MLP*

BETSOPEN, Ya.I., redaktor; VODZINSKIY, V.V., tekhnicheskiiy redaktor

[Time norms (standard) for repairing industrial equipment in the oil industry] Normy vremeni (tipovye) na remont tekhnologicheskogo oborudovaniia masloshirovoi promyshlennosti. Uverzhdeny prikazom no.43 Glavrasshirmaslo ot 23 fevralia 1951 g. Moskva, Poshche-promizdat, 1952. 515 p. (MLRA 10:3)

1. Leningrad. Vsesoyuznyy nauchno-issledovatel'skiy institut shirov.

(Oil industries--Equipment and supplies)

BETSOFEN, Ya.I., red.; KISINA, Ye.I., tekhn.red.

[Subject plan for publications of the state scientific and technical publishing house "Pishchepromizdat" for 1959]
Tematicheskii plan vypuska izdanií gosudarstvennogo nauchno-tekhnicheskogo izdatel'stva "Pishchepromizdat" na 1959 g.
Moskva, Pishchepromizdat, 1958. 16 p. (MIRA 12:8)

1. Russia (1923- U.S.S.R.) Vsesoyuznoye ob"yedineniye knizhnoy torgovli.

(Bibliography--Food industry)

BETSRUM, S.

"On an Island of Peat," (Na Ostrove Bolchogo Uglya), by N. Sviridov, G. Vasilevoy and S. Betsrum, Tekh. Molod., No. 12, 1953.

Abs. D210896, 29/4/55

S/137/61/000/010/008/056
A006/A101

AUTHORS: Bett, F., Khikmen, B. S., Uillis, G. M., Uorner, G. K.
TITLE: Some studies on obtaining titanium by electrolysis of molten salts
PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 10, 1961, 16, abstract
10G122 (V sb. "Iz vlecheniye i ochistka redk. metallov", Moscow,
Atomizdat, 1960; 466 - 482. Discussion, 482 - 489)

TEXT: This is a review of methods for obtaining Ti metal. The most promising method is the production of high-purity Ti by electrolysis of Ti chlorides, dissolved in molten salts. $TiCl_3$ can be obtained by $TiCl_4$ reduction by two methods. 1) Outside the electrolytic bath. It is suggested to boil $TiCl_4$ in a special apparatus in the presence of H_2 , where the rate of obtaining $TiCl_3$ is proportional to the energy consumed. 2) In the electrolyte. From all the known methods of reducing $TiCl_4$ in the electrolyte, the most expedient is that of reduction on the cathode by electrolytically deposited metal. The design of a pyrex-glass electrolyzer is described which can be used for small-scale experiments; a large-size graphite electrolyzer is also described. A eutectic mixture of Li and K chlorides, containing 60 mol. % $LiCl$, with $350^\circ C$ melting point, is used as an elec-

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S/137/61/000/010/008/056
A006/A101

Some studies on obtaining...

electrolyte. For large-scale electrolysis a eutectic mixture of Na chlorides (50 mol. %) and Mg is most suitable. A satisfactory deposit in the form of coarse, un-tightly adhering dendrites, can be obtained at medium current densities (50 - 100 amp/dm²), high concentrations of TiCl₃ and temperatures of about 750°C. One of the basic problems is the production of a dense cathode deposit which can be easily washed off the electrolyte without noticeable oxidation.

L. Vorob'yeva

[Abstracter's note: Complete translation]

Card 2/2

KLIMECHEK, R. [Klimecek, R.]; BETTEL'GEYM, Ya. [Bettelheim, J.]

Innovation in absorption technique; a column with spiral
wire packing. Zhur. prikl. khim. 36 no.11:2432-2437 N '63.
(MIRA 17:1)

1. Nauchno-issledovatel'skiy institut neorganicheskoy khimii,
Usti nad Labem.

MARAN, Bohuslav, akademik, laureat statni ceny; KAUT, Vl., inz.;
SVORCOVA, S., MUDr.; TUSL, M., MUDr., C.Sc.; RABA, Jan.;
MATERNA, Jan, inz.; KLIMECEK, Rostislav; BETTELHEIM, Jan, inz.;
HALA, Eduard, doc., inz., dr.; UHER, L., inz.; KORDIK, E.;
ERDOS, Emerich, doc., inz., dr.; VOSOLSOBE, Jan, doc., inz., dr.;
NADENIK, O., inz.; HRUDKA, J.; HOSTALEK, Zdenek, inz., dr.;
RADL, K., inz.; PEKAREK, Vl., MUDr.; BLISTAN, J., inz.; STORCH, O.
inz.

A national conference on protection against chemical fumes
from electric heat plants; a summary of reports. Energetika Cz
11 no.2:109-111 F '61.

BETTELHEIM, J.

Basic relations for the calculation of spray absorbers.
Chem prum 14 no.1:17-19 Ja'64.

1. Vyzkumny.ustav anorganicke chemie, Usti nad Labem.

SKRIVANEK, J.; BETTELHEIM, J.

Approximate solution of short-time diffusion in a spherical body. Chem prum 14 no.7:351-353 J1 '64.

1. Research Institute of Inorganic Chemistry, Usti nad Labem.

AUTHORS: Ergen, N.K., Briant, R.C., Weinberg, A.M., 30V/ 89-4-6-22/30
Bettis, E.S.

TITLE: A Fluorine-Containing Fuel for High-Temperature Reactors
(Ftoristoye goryucheye dlya vysokotemperaturnykh reaktorov)

PERIODICAL: Atomnaya energiya, 1958, Vol 4, Nr 6, pp 597-601 (USSR)

ABSTRACT: This is a detailed review of 6 papers published in Nucl.Engng,
1957, Vol 2, pp 16, 298; Engineering, 1957, Vol 184,
Nr 4783, p. 604; Nucl. Sci. Engng, 1957, Vol 2, pp 6, 826,
797, 804, 841. (Reviewer: V.A.). There are 3 figures, 2 tables
and 6 references.

1. Reactors--Heat transfer 2. Fuels--Applications 3. Fluorine
--Applications

Card 1/1

BETTKHER, K. [Bottcher, K.]

Lecithin-vitellin reaction in the species of nonsporeforming
bacteria. Mikrobiologiya 32 no.3:419-424 My-Je'63
(MIRA 17:3)

1. Institut pochvovedeniya i pitaniya rasteniy, Berlin, German-
skaya Demokraticeskaya Respublika.

BETTLACH, Fr., MUDr.

Physician's tasks in physical education. Prakt. lek., Praha
35 no.14:329 20 July 55.

1. Vedouci lekar telovych, lek, poradny pri OUNZ Usti nad
Orlici.

(PHYSICAL EDUCATION AND TRAINING
in Czech., role of physician)

(PHYSICIANS
in Czech., role in physical educ.)

BETTO, T.

✓ The solubility of cobalt ferrocyanide in water determined by specific-conductivity measurements of a saturated solution at 25°. Antoni Basinski, Wojciech Szymanski, and Teresa Betto (Univ. Torun, Poland). *Roczniki Chem.* 33, 289-91(1959)(English summary).—Soly. of $\text{Co}_3\text{Fe}(\text{CN})_6$, detd. by sp.-cond. measurements of the satd. soln. at 25°, is 2.55×10^{-4} moles/l. A. Krezlewski.

KIN, Zygmunt, dr. inż.; WORONIK, Genowefa, inż.; BETTO, Teresa, mgr.

Application of carboxymethylcellulose in the production of
printing paper. Przegl papier 18 no.7:215-218 J1 '62.

1. Włocławskie Zakłady Celulozowo-Papiernicze, Włocławek.

LETTIS, E.

Karmin, E. and Letts, E. "The plasticization of butadiene-styrene rubber," In the symposium: Investigation in the field of complex-molecular compounds, Moscow-Leningrad, 1949, p. 129-37, Bibliog: 7 items

SO: U-5241, 17 December 1953, (Letopis 'zhurnal 'nykh Statey, No. 26, 1949).

4138. Plasticisation of butadiene-styrene rubbers.

G. BERRY and B. KARMAN. "Isobutadien i po-

vezhka i Khimii Kauchuka i Reziny", 1950, p.

94-102. This paper appears to embody the same

conclusions as the paper by the same authors pre-

sented to the 6th Conference on High-molecular

Compounds, Akad. Nauk SSSR (this journal, 1953,

nos. 1393). The conference paper is translated in

Russ. Chem. Technol., 1950, 29, 485-91.

352D21MD23.43

BETTE, G. E.

"Modification of Structure and Properties of Divinylstyrol Rubber in the Process of its Plasticization." Sub 7 May 51, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

ANIKANOVA, K.F.; ~~BETTS, G.F.~~; ZHAKOVA, V.G.; KOMSKAYA, N.F.; KARMIN, B.K.;
PRISS, L.S.; REZNIKOVSKIY, M.M.; CHERNIKINA, L.A.; SHTEYN, Ye.B.

Structural and characteristic similarity of Soviet ~~SKU~~ polyisoprene
rubber and natural rubber. Kauch.i rez.no.1:4-14 Ja '57. (MLRA 10:2)
(Rubber--Synthetic)

31978

S/081/61/000/023/053/061
B106/B101

112230

AUTHORS: Betts, G. E., Gubenko, I. B., Karmin, B. K., Lukashevich, I. R.,
Markova, L. M., Segalevich, A. Ye., Troitskaya, N. I.,
Chernozhukov, N. I., Guseva, V. I.

TITLE: Test of petroleum products as plasticizer fillers for rubber
compounds from divinyl styrene rubber. Communication I

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1961, 560, abstract
23P346. (Tr. N.-i. in-ta shin. prom-sti, sb. 5, 1960, 5-20)

TEXT: For the purpose of examining the possibility of enlarging the raw
material basis for the production of olefin rubber, a study has been made
of the effect of paraffin-naphthene hydrocarbons (I) and aromatics (II),
isolated from different kinds of petroleum at different stages of
processing, on the physicochemical properties of standard rubbers from
[6C-30A (SKS-30A). Addition of I and II in an amount of 35% to a mixture
of rubber and softener deteriorates the physicochemical properties of
vulcanizates and enhances their elasticity. The tensile strength of rubber
containing I drops from 274 (standard rubber) to 173 - 226 kgf/cm² while

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Test of petroleum products...

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its tear resistance drops from 81 to 47 - 54 kgf/cm. The tensile strength of rubber containing II drops to 200 - 245 kgf/cm² and its tear resistance to 52 - 64 kgf/cm. The thermal stability and the bonding strength of doubled rubbers decrease substantially after vulcanization. High-molecular products of comparatively higher viscosity deteriorate the strength properties of rubber less than do low-molecular ones. A test of 29 products, obtained from differently processed petroleum asphalts, deasphalted products, distillates, and raffinates, have shown that the most interesting of these products are a deasphalted petroleum asphalt, the residual high-viscosity oil, a secondary raffinate, and an aviation tar. These products ensure satisfactory physicommechanical properties, elasticity, and brittleness temperature (-50 C) of vulcanizates. [Abstracter's note: Complete translation.] ✓

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S/081/61/000/023/052/061
B106/B101

AUTHORS: Betts, G. E., Zhakova, V. G., Karmin, B. K., Strel'nikova, N. P., Eytngon, I. I.

TITLE: Chemical mastication accelerators for natural and synthetic rubber and prospects of their application

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1961, 559, abstract 23P344. (Tr. N.-i. in-ta shin. prom-sti, sb. 5, 1960, 21-35)

TEXT: Numerous compounds have been examined, many of which are vulcanization accelerators. Dimethyl phenyl p-cresol (I) was found to be the most active chemical mastication accelerator for ЦК-30 (SKS-30) rubber. In the presence of 1.2 parts by weight of I, mastication can be carried out in kettles within 30 to 50 min at 130°C as against 70 min at 135°C without I. A similar accelerating action is exerted by I on the mastication of ЦКМ (SKN) and ЦКМ(SKI) rubber, but not on that of НК(NK) rubber. Active mastication accelerators for NK rubber are Renacit II, IV, and V (trichlorothiophenol, zinc salt of pentachlorothiophenol, or pentachlorothiophenol, respectively), Vulkamel TBN (30% thio-β-naphthol and 67% inert paraffin).

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Chemical mastication accelerators...

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B106/B101

Peptone 65 (zinc salt of o-benzamidothiophenol), the zinc salt of trichloro-thiophenol, Peptone 22 (o,o'-dibenzamidodiphenyl disulfide), and α-nitro-β-naphthol. When selecting mastication accelerators, it should be borne in mind that they are able to affect the scorching of compounds as well as the vulcanization and physicommechanical properties of vulcanizates in different ways, depending on the type of rubber, filler, and other ingredients. Of great importance are the cooling conditions of the masticated rubber. Scorching is frequently increased by water cooling. Accelerators permit mastication in closed rubber mixers and preparation of compounds at the same time. Accelerators that are active at relatively low temperatures, such as Renacit IV and Peptone 65, are required for this purpose. [Abstracter's note: Complete translation.] ✓

Card 2/2

S/138/60/000/005/007/012
A051/A029

AUTHORS: Betts, G.E., Karmin, B.K., Eyttingon, I.I., Zhakova, V.G.,
Strel'nikova, N.P.

TITLE: The Mastication of Natural Rubber with O-Benzamidothiophenol,
its Zinc Salt and O,O' -Dibenzamidodiphenyldisulfide

PERIODICAL: Kauchuk i Rezina, 1960, No. 5, pp. 24 - 27

TEXT: After brief reference to a previous article published in "Kauchuk i Rezina", 1959, No. 8, p. 32 by the authors on the action of thiophenols and their derivatives on the mastication of natural rubber, they point out that the present article deals with the results of an investigation of o-benzamidothiophenol, its zinc salt and O,O' -dibenzamidodiphenyldisulfide (p. 22). The method by which o-benzamidothiophenol was obtained is described. It is stated that the mechanism of the reaction has not yet been clarified. The structural formulae of the reduction reaction are given for O,O' - dibenzamidodiphenyldisulfide, reduced to o-benzamidothiophenol with sodium hydroxide and glucose. The physical and chemical properties of the obtained product are given: melting point 101 -

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S/138/60/000/005/007/012
A051/A029

The Mastication of Natural Rubber with O-Benzamidothiophenol, its Zinc Salt and O,O' -Dibenzamidodiphenyldisulfide

- 103°C, yield 75%. O-benzamidothiophenol has a characteristic odor, is hardly soluble in water and dissolves well in hot alcohol, and in acetone and chloroform when cold. The authors outline the procedure for obtaining the zinc salt of the original product, and describe its chemical and physical properties. It is pointed out that the salt obtained by the given method has similar properties as the imported salt. The activity of the benzamidothiophenol and its derivatives in mastication of rubber was further studied under laboratory conditions. The details of the investigation are submitted whereby laboratory rollers and the Krupp-Gruzon rubber mixer were used. Various concentration of pepton 22 were applied and the kinetics of the mastication at these concentrations can be seen in Figure 1. The obtained data reveal that the most active of the three investigated accelerators of mastication at the temperatures investigated, was o-benzamidothiophenol. Pepton 22 seemed to be the least active in the region where the mastication effectiveness dropped with an increase in the temperature. The zinc salt of o-benzamidothiophenol held an intermediate position. In

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The Mastication of Natural Rubber with O-Benzamidothiophenol, its Zinc Salt and O,O' - Dibenzamidodiphenyldisulfide.

the temperature region where the mastication rate increases with an increase in the temperature, the activities of the disulfide and the zinc salt of o-benzamidothiophenol gradually approach each other. The technological and technical properties of the masticated rubber obtained by o-benzamidothiophenol and its derivatives are discussed. Pepton 22 is recommended for industrial use as an accelerator of mastication, in addition to the zinc salt of o-benzamidothiophenol. Both are only slightly toxic and stable. The zinc salt is recommended for use at temperatures below 130°C, and peptone 22 at temperatures above 130°C. There are 5 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti
(Scientific Research Institute of the Tire Industry).

Card 3/3

S/138/60/000/011/005/010
A051/A029

AUTHORS: Eytingon, I.I., Karmin, B.K., Zhakova, V.G., Betts, G.E.,
Kamenskaya, S.A.

TITLE: Mastication of Natural Rubber in the Presence of Para-
Tertiary Butylphenolmercaptane, Dimethylphenylparacresolmer-
captane, Their Zinc Salts and Disulfides

PERIODICAL: Kauchuk i rezina, 1960, No. 11, pp. 21-24

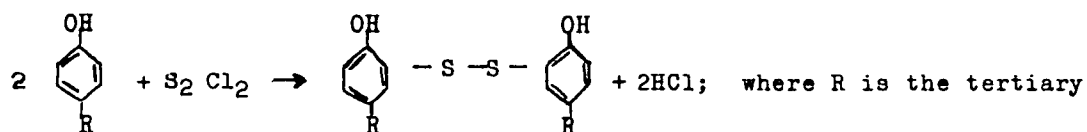
TEXT: The results are given of work carried out on the synthesis
and study of paratertiary butylphenolmercaptane, dimethylphenylparacresol-
mercaptane, their zinc salts and disulfides, as accelerators of natural
rubber mastication. The method for producing the listed accelerators is
outlined and a characteristic evaluation of these is given. Corresponding
disulfides were used as the initial products for producing substituted
arylmercaptanes. Both products under investigation were obtained by react-
ing sulfur monochloride with paratertiary butylphenol and dimethylphenyl-
paracresol. The reaction is given as:

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Mastication of Natural Rubber in the Presence of Para-Tertiary Butylphenolmercaptane, Dimethylphenylparacresolmercaptane, Their Zinc Salts and Disulfides



butyl- or dimethylbenzyl. The reaction was carried out in a solution of dichloroethane at its boiling point. Sulfur monochloride was added gradually, mixing for 2 hours. At the end of the reaction the dichloroethane was distilled off and the product obtained dried in a vacuum at a temperature of 40-50°C until a constant weight was achieved. The disulfide yields were 82 and 87% of the theoretical, respectively. The obtained products, which were resin-like substances, were subjected to an elementary analysis. The results were: for

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S/138/60/000/011/005/010
A051/A029

Mastication of Natural Rubber in the Presence of Para-Tertiary Butylphenolmercaptane, Dimethylphenylparacresolmercaptane, Their Zinc Salts and Disulfides

	C	H	S
$C_{20}H_{26}O_2S_2$			
calculated.....	66.26	7.23	17.68
found	66.67	7.36	17.02
$C_{30}H_{30}O_2S_2$			
calculated.....	74.07	6.17	13.16
found	74.40	5.99	12.81

The results showed that the synthesized substances correspond to disulfide of paratertiary butylphenol and disulfide dimethylphenylparacresol. In order to obtain corresponding mercaptanes from the disulfides the reduction method was used with glucose and alkali hydroxide in an alcohol-aqueous medium (Ref. 3). Results of an analysis of the zinc content in the zinc salt of the corresponding mercaptane proved that sodium mercaptide and not phenolate is formed when reducing the disulfides with glucose and a calculated quantity of alkali hydroxide. The mercaptane yield was 90 and

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A051/A029

Mastication of Natural Rubber in the Presence of Para-Tertiary Butylphenolmercaptane, Dimethylphenylparacresolmercaptane, Their Zinc Salts and Disulfides

97% of the theoretical, respectively. Zinc salts of the paratertiary butylphenolmercaptane and dimethylphenylparacresolmercaptane were obtained from the respective sodium mercaptides formed in the process of the disulfide reduction. The yield of the commercial product was 96% of the theoretical. The zinc content for the $C_{20}H_{26}O_2S_2Zn$ was calculated to be 15.2% and found experimentally as 14.7%. The authors point out that they were first to obtain the mercaptanes of the paratertiary butylphenol and dimethylphenylparacresol, their zinc salts and also dimethylphenylparacresol disulfide. A study was carried out of the action of the paratertiary butylphenolmercaptane, dimethylphenylparacresolmercaptane and their derivatives on the mastication of natural rubber. Fig.1 shows the effect of various doses of mastication accelerators on natural rubber processing on rollers, and Fig.2 the kinetics of mastication at 100°C. Data on the effect of temperature on the mastication on rollers are given in Fig.3. The tested substances form the following decreasing series according to

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S/138/60/000/011/005/010
AO51/AO29

Mastication of Natural Rubber in the Presence of Para-Tertiary Butylphenolmercaptane, Dimethylphenylparacresolmercaptane, Their Zinc Salts and Disulfides

their effectiveness on the mastication process: paratertiary butylphenolmercaptane, dimethylphenylparacresolmercaptane > zinc salts > disulfides. The greater activity of the mercaptane as compared to the zinc salts, etc., corresponds with data obtained previously by the authors in studying trichlorothiophenol, pentachlorothiophenol, orthobenzamide thiophenol and their derivatives (Ref. 1,2). It was further found that the mastication of natural rubber in the presence of paratertiary butylphenolmercaptane, dimethylphenylparacresolmercaptane, their zinc salts and disulfides is hardly effective on the tendency of the breaker mixtures to scorching, or on the vulcanization rate and physico-mechanical properties of their vulcanizates. The authors state in conclusion that for industrial application only the zinc salts of mercaptanes are of interest, since mercaptanes are toxic and easily decompose when stored, and the disulfides have a resin-like consistency. There are 3 sets of graphs, 1 table and 3 references: 2 Soviet and 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)
Card 5/10
5

BETLERI, Istvan, dr.

Pathogenesis of leukoencephalitis haemorrhagica. Orv. hetil. 96
no.6:164-166 6 Feb 55.

1. A Fovarosí Ússóki utcai Korház (igazgató: Farkas Karoly dr.
candidatus) prosecturájának közleménye.
(BRAIN, diseases,
leukoencephalitis hemorrhagica)

BETLERI, I.

EXCERPTA MEDICA Sec.2 Vol.9/11 Physiology, etc. Nov56

5104. BETLERI, I. and FARKAS K. Fovárosi Uzsoki utcai Kórház, Prosecturájának Közl. *Pancreás és nyálmirigy vizsgálatok kísérletes histamin aszmában és serum anaphylaxiában. Studies on the pancreas and salivary glands in experimental histamine asthma and serum anaphylaxis ORV. HETIL. 1956, 97/11 (294-297) Illus. 5
In guinea-pigs subjected to histamine asthma and serum anaphylaxis, histological changes similar to those in the dyscrinia of bronchial asthma in man were observed in the bronchial system, pancreas and salivary glands. The identical dysfunctions in the saliva-forming cells are ascribed to an autonomic nervous disturbance. Taking into consideration the tissue changes of allergic nature observed in other organs it is concluded that in both experimental and human asthma a mechanism involving the whole organism is involved. The attacks of dyspnoea are due chiefly to the bronchial dyscrinia.

EXCERPTA MEDICA Sec.13 Vol.11/2 Dermatology, etc. Feb 57

464. BETLÉRI I. and FODOR I. Hauptstätt. Uzsoki-utca Krankenh., Budapest.
Über die basozellulären Krebsarten der Haut. Basal cell cancers of
the skin ACTA MORPH. ACAD. SCIENT. HUNG. (Budapest) 1956, 6/3
(339-349) Tables 1 Illus. 8

Analysis of 787 basal cell carcinomas involving 705 patients. There were no relations between tumour structure and localization in different regions of the body, but for the internal ocular angle where the adenocystic form is prevalent. There was no connection between clinical course and histological type. In 28% there was a direct relationship between tumours and epidermis (speaks against Krompecher's view). According to the authors, basal cell cancers are initially rather uniform in morphology; the development of different types is influenced by an inter-relationship between stroma and parenchyma, and by secondary degenerative processes. Basal cell carcinoma and its predominance in the face is due to meteorological and radioactive effects, but also to the presence of embryonic branchial clefts.
Rezek - Miami, Fla. (V, 13, 16)

BETLERI, Istvan, dr.; PATAKY, Zsigmond, dr.

Case of polynuclear leukemia. Orv. hetil. 98 no.39:1087-1089
23 Sept 56.

1. A Fovarosí Uzsoki utcai Kórház, Karoly, dr. az orvostudományok
doktora) Prosecturájának és a Budapesti Orvostudományi Egyetem I.
sz. Sebészeti Klinikájának (igazgató: Hedri, Endre, dr. egyet. tanár)
közleménye.

(LEUKEMIA, MYELOCYTIC, case reports
granulocytic leukemia (Hun))

RETEL K. 15/10/57

BETLERI, Istvan; KOVES, Istvan

Cortisone therapy of acute pancreatitis. Orv. hetil. 98 no.50-51:
1409-1410 15-22 Dec 57.

1. A Fovarosi Ussoki-utcai Korhaz (igazgato: Szanto Sandor dr.) I.sz.
Sebeseti Osztalyanak (feorvos: Koves Istvan dr.) kozlemenye.
(PANCREATITIS, ther.
cortisone (Hun))
(CORTISONE, ther. use
pancreatitis (Hun))

BETLARI, Istvan, Dr.

Generalized thromboangitis obliterans causing abdominal crisis. Orv.
netil. 99 no.3:98-99 19 Jan 58.

1. A Fovarosí Ussoki utcai Korház (igazgató: Farkas Karoly dr. az
orvostudományok doktora) Prosecturájának közleménye.

(THROMBOANGITIS OBLITERANS, compl.

acute abdom. caused by generalized thromboangitis
obliterans, autopsy findings (Hun))

(ABDOMEN, ACUTE, etiol. & pathogen.

thromboangitis obliterans, generalized, autopsy findings
(Hun))

BETLERI, Istvan, Dr.; FARKAS, Karoly, Dr.; TANKA, Dezso, Dr.

Influencing experimental histamine asthma and serum anaphylaxis.
Orv. hetil. 99 no.21:713-715 25 May 58.

1. Az Országos Rheuma és Furdogyi Intezet (igazgato: Farkas Karoly dr., az orvostudományok doktora) Korszovettani Laboratoriumának és az Uzsoki-utcai Korház (igazgato: Szanto Sandor dr.) I. sz. Sebészeti Osztályának (foorvos: koves Istvan dr.) közleménye.

(ASTHMA, exper.

histamine-induced, influence of various chemicals in guinea pigs (Hun))

(ALLERGY, exper.

anaphylaxis, influence of various chemicals in guinea pigs (Hun))

BODOKY, Gyorgy, Dr.; BETLERI, Istvan, Dr.; FODOR, Istvan, Dr.; BALKANYI, Ivan, Dr.

Siderofibrosis lienis. Orv. hetil. 100 no.14:510-512 5 Apr 59.

1. Az Uzsoki-utcai kórház (ig. Szanto Sándor dr.) I. sz. sebészeti osztályának (foo: Kovas Istvan dr.) II. sz. belgyógyászati osztályának (foo.: Flamm Sándor dr.) és az ORFI kórszövettani laboratóriumának (foo.: Farkas Károly az orvostudományok doktora) közleménye.

(SIDEROSIS, pathol.

siderofibrosis, histopathol. (Hun))

(SPLEEN, dis.

same)

BETLERI, Istvan, dr.; TANKA, Dezso, dr.

Histological examination in experimental hypothermia. Orv. hetil.
101 no.19:667-670 8 My '60.

1. Országos Rheuma és Furdógyi Intézet, Sebészeti osztály és
Korbonstani osztály.
(HYPOTHERMIA INDUCED exper.)

BETLERI, I.

Experimental investigations on so-called postoperative disease. Acta chir. Acad. Sci. Hung. 3 no.1:85-95 '62.

1. Chirurgische Abteilung (Chefarzt: Dr. T. Verebely) und Prosektur (Chefarzt: Dr. K. Farkas) des Landesinstitutes für Rheumatologie und Balneologie, Budapest.

(SURGERY OPERATIVE compl)

(ADRENAL CORTEX HORMONES pharmacol)

BETLERI, Istvan, dr.

Steroids in surgical conditions. Magy. sebesz. 15 no.4:252-257 J1 '62.
(ADRENAL CORTEX HORMONES ther)
(SURGERY OPERATIVE)

HUNGARIAN

RETIKAI, Tamas, Dr.; National Rheumatism and Endocrinological Institute,
Department of Surgery (Orszagos Kórház és Főorvosi Intézet, Sebészeti
Osztály);

"Corticoid Treatment of Surgical Cases Due to Obstructive Jaundice."

Budapest, Orvosi Hetilap, Vol 104, No 9, 3 Mar 61, pages 392-394.

Abstract: [Author's Hungarian summary] To 15 surgical patients with
severe obstructive jaundice glucocorticoids, ACTH were given by the
author in addition to the usual treatments. The course of recovery
was advantageously influenced by the corticoids. A more rapid dis-
appearance of the jaundice, an increase of the post-operative drainage
of the bile through the Kerr drain, as well as an increased diuresis
are reported. The healing of the surgical wound was not influenced
by the treatment. The general state of well-being and appetite of the
patients was better than that of the 15 control patients. 4 Eastern
European, 15 Western references.

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HUNGARY

BETLERI, Istvan, Dr, KERENYI, Karoly, Dr, LOVASZ, Laszlo, Dr, MESZAROS, Laszlo, Dr; National Institute of Rheumatology and Balneology, Department of Surgery (chief physician: VEREBELY, Tibor, Dr) (Orszagos Reuma- es Furdougyi Intezet, Sebészeti Osztaly).

"Successful Resuscitation of Cardiac Arrest Following Surgery."

Budapest, Orvosi Hetilap, Vol 107, No 36, 4 Sep 66, pages 1713-1714.

Abstract: [Authors' Hungarian summary] The successful resuscitation of a case of cardiac arrest, by 100 minutes of manual, oper. heart massage, is reported. The arrest developed, for unclear reasons, in a 22 year-old male patient following surgery for a duodenal ulcer. 3 Hungarian, 4 Western references.

BETUKER, Janos, prof. (Marghita); VERES, Zoltan, prof. (Marghita)

Solving some geometric problems with the aid of complex numbers.
Gaz mat B 14 no.1:1-7 Ja '63.

BETYAYEV, S. K. (Moscow)

"On the theory of magnetic deflection of gas from wall of a conical chamber; similarity compression of a conical piston"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 1964.

L 55125-65 EWT(1)/EWP(m)/EWA(d)/EPR/FCS(k)/EWA(c)/EWA(h) Pd-1/Pi-4 WW

ACCESSION NR: AP5009393

S/0208/65/005/002/0274/0286
517.9:533.7

AUTHOR: Betyayev, S. K. (Moscow)

TITLE: Self-similar separation of a gas from the surface of a circular cone, or a wedge with attached shock wave /

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 5, no. 2, 1965, 274-286

TOPIC TAGS: gas dynamics, shock wave, numerical method

ABSTRACT: Problems in the gas dynamics of conical compression are considered. The pressure on a piston and other functions are found from the law defining the expansion of the chamber. This law is expressed in the form $r_1 = [tf(\theta_1)]^{\delta}$, where t is time and r_1 and θ_1 are the polar coordinates of the piston. Conical compression occurs in the limiting case when $\delta \rightarrow \infty$. A shock wave is introduced in such compression toward the apex of the conical chamber. A numerical solution is carried out for the resulting problem by the method of characteristics. Initial conditions are expressed by means of expansion in series, and a solution by quadrature is

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ACCESSION NR: AP5009393

given for the case when it is possible. The Massau-Guderley method of characteristics is then applied to obtain a numerical solution of the partial differential equations. Estimates for the applicability of Guderley's method are made for the system in the presence of a shock wave. Orig. art. has: 32 formulas, 9 figures.

ASSOCIATION: none

SUBMITTED: 10Jun64

ENCL: 00

SUB CODE: GP, MA

NO REF SOV: 006

OTHER: 003

Card 2/2

BETYGIN, K.

Computation of temporary-disability relief for workers and
employees receiving piece rate pay. Okhr.truda i sots. strakh.
no.5:64-66 N '58. (MIRA 12:1)
(Insurance, Social)

USSR/Human and Animal Physiology. The Nervous System

T-12

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65747

Author : Betyukov I.I.

Inst : SS GSSR

Title : The Role of the Cutaneous Mechanical Analyzer in the Development of Experimental Neurosis in the Dog

Orig Pub : V sb.: Probl. sovrem. fiziol. nervn. i myshechn. sistem.
Tbilisi. AN GruzSSR, 1956, 285-292

Abstract : Rapidly progressing extinction of conditioned reflexes was observed in three dogs in association with alternation (without reinforcement) of positive conditioned distant stimuli (M₁₂₀, 50 Watt bulb) worked up in response to food reinforcement. Extinction of the responses to alternating distant (sound) and contact (touch) stimuli in the presence of the food reflex, or alternating positive and saccadic distant stimuli in the presence of an electrodefensive reflex, was accompanied by a reduction in salivation, manifestations of compensatory phase, generalized motor

Card : 1/2

125

BETYUTSKAYA, A.V.

N.A.Tol'skii, 1830-1891. Moskva, Gos.izd-vo med.lit-ry, 1953. 221 p.
(MLRA 6:7)
(Tol'skii, Nikolai Alekseevich, 1830-1891)

BETYYEV, S.K. (Moskva)

Self-similar squeezing out of gas from the surface of a circular
cone or wedge with an additional shock wave. Zhur. vych. mat. i
mat. fiz. 5 no.2:274-286 Mr-Apr '65. (MIRA 18:5)

24 2200

G/Q30/62/002/007/004/004
I030/I230

AUTHORS: Betzel, M., Hase, W., Kleinstück, K., and Tobisch, J.

TITLE: Measurement of the coherent scattering amplitudes of Dysprosium and Thulium for thermal neutrons

PERIODICAL: Physica status solidi, V.2, no.7, 1962. K164-K167

TEXT: The knowledge of the nuclear scattering iron sections, a prerequisite for the investigation of magnetic structures by means of neutron diffraction, of rare earth is of interest in view of the increasing use of these elements for the development of magnetic materials. In order to determine the coherent scattering amplitudes of Dy and Tm, neutron diffraction diagrams of Dy_2O_3 and Tm_2O_3 respectively were obtained, with $\lambda = 1.197 \pm 0.003$ kX. Measurements were standardized relative to a Nickel preparation, using $\sigma_{\text{coh}} =$

Card 1/3

G/030/62/002/007/004/004
I030/I230

Measurement of the coherent scattering...

($13,2 \pm 0,2$) barns for Ni. Atomic parameters and temperature factor of Dy_2O_3 and Tm_2O_3 are assumed to be identical to the values published for Ho_2O_3 (Koehler, Wollan and Wilkinson, Phys. Rev., 110, 37, (1958)). From the intensity of the 222 reflections values for the coherent scattering amplitudes of $1,72 \pm 0,05 \cdot 10^{-12}$ cm for Dy and $0,69 \pm 0,02 \cdot 10^{-12}$ cm for Tm are deduced. Structure factors calculated with these values are compatible with those determined from the intensities of the measured diffraction pattern. There are 2 tables and 2 figures.

ASSOCIATION: Zentralinstitut für Kernphysik, Bereich Reaktortechnik und Neutronenphysik, Rossendorf bei Dresden und Institut für Röntgenkunde und Metallphysik der TU, Dresden (Central Institute for Nuclear Physics, Department Reactor Technique and Neutron Physics,

Card 2/3

G/030/62/002/007/004/004
I030/I230

Measurement of the coherent scattering...

Rosendorf near Dresden, and Institute for Röntgenology
and Metalphysics of the T.U., Dresden).

SUBMITTED: June 12, 1962

JA

Card 3/3

STANKOVIC, D., doc., dr.; BEUC, M., dr.; RADONIC, S., dr.

Contribution to the study of Kienboeck's disease. Med. arh. 16 no.2:
19-26 '62.

(OSTEOCHONDRITIS case reports)
(SEMILUNAR BONE dis)

S

BEUER, V.A.

BEUER, V.A., KLIMOVA, K.N.

Hemopoietic modifications in peptic ulcer before and following surgery.
Klin.med., Moskva 28 no.5:89 May 50. (GLML 19:4)

1. Of the Leningrad Institute of Blood Transfusion (Director -- V.V. Kukharchik), Leningrad.

BEURAN, Ioan, ing.

Avoidance and removal of pebble deposits in the cooling
system of internal combustion engines. Rev transport 10
no.5:204-206.My '63.

BEURAN, N.

SCIENCE

Periodicals: METROLOGIA APPLICATA. Vol. 5, no. 5, Sept./Oct. 1958

BEURAN, NO. Problems of medical metrology. p. 221

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

RUMANIA / Chemical Technology. Chemical Products and H
Their Applications. Safety and Sanitation.

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 12256.

Author : Riminiceanu, R.; Beuran, T.; Florescu, T.; Arama O.;
Nestor, Aurelia; Vasiliu, I.

Inst : Not given.

Title : On the Prophylaxis of Zinc Poisoning in Polygraphic
Enterprises.

Orig Pub: Med. interna, 1958, 10, No 2, 285-291.

Abstract: Methods are described for diagnosing zinc poison-
ing. Statistical data are cited on the results
of the medical examination of 173 workers of a
polygraphic enterprise. -- Z. Khaimskiy.

Card 1/1

16

BEUS, A. A.

PA7CT48

USSR/Geological Prospecting
Stratification
Minerals

Jun 1948

"Vertical Zonality of Pegmatites in Samples From a
Pegmatite Field of Aksu-Pushtiry (Turkestan Ridge),"
A. A. Beus, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 7

Briefs mineralogical findings in pegmatite veins in
subject area. Submitted Mar 1948.

76T48

1. BEUS, A. A.; PETROV, G. I.
2. USSR (600)
4. Geology and Geography
7. Theoretical Principles of the Science of Ore Deposits. By I. I. Tanatar. (Kiev-L'vov, Ukraine State Technical Press, 1950). Reviewed by A. A. Beus and G. I. Petrov. Sov. Kniga, No. 6, 1950.
9. ~~Report~~ Report U-3081, 16 Jan. 1953. Unclassified.

USSR

Aplitoid pegmatite zones, A. A. Beus. *Trudy Mineralog. Muzeya, Akad. Nauk S.S.S.R.* No. 2, 64-71 (1959). -- The aplitoid-like (uplitoid) subbands of pegmatites indicate chem. interactions of the magmatic material with the country rocks, which are evident in the chem. differences between the central, and the subband parts of complex veins of this type. B. studied these phenomena in the high-temp. pegmatites in mica schists of the Turkestan chains, which are typical graphic quartz-biotite-microcline rocks, with fine-granular marginal zones of sometimes only 3-cm. thickness, with acicular tourmaline. The granite mother rock of the pegmatites shows, with systematic approach to the vein, decreasing contents in green amphibole, and increasing contents in tourmaline and muscovite which gradually replaces the biotite. The aplitoid zone shows strikingly 2 generations of microcline, and fine-granular quartz replacing the feldspar with microgranitic intergrowths of both minerals, much tourmaline, and some almandite. The series of chem. analyses of samples of all these zones show a characteristic impoverishment of the aplitoid marginal zones in Fe, Fe₂O₃, CaO, and MgO, but a considerable increase in K₂O, which is explained by the muscovitization of the dark biotite. The detailed mineralogical description of a series of thin sections

A.A. Beus

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taken from the mica schists of the country rock, the aplite zone, and the pegmatite, shows a strong enrichment in Mg and Fe(II), i.e., of melanocratic minerals in the schists proper; and pegmatite veins which have a strongly developed aplite zone and are much different from the mass of the vein rock by an enrichment in biotite, tourmaline (black), almandite, and even magnetite. There is a distinct relation between the thickness of the aplite zones, and the content, in melanocratic minerals in the pegmatite veins. This is confirmed by the series of chem. analyses of samples taken from the same rocks which had been described in thin-section analysis. The country schists are the more enriched in alkalis, and impoverished in Mg and Fe the nearer the samples are to the contact. Next to the aplite schists Fe and Mg are enriched, but K₂O is decreased, in comparison with the vein pegmatite. In rough outline: Fe and Mg migrate from the schists onto the pegmatite, K₂O from the pegmatite onto the schists.

W. Bittel

CA BEUS, A.A.

8

Magnesiophilite and manganokoniinite, two new minerals from pegmatites. A. A. Beus. *Doklady Akad. Nauk S.S.S.R.* 73, 1267-9 (1950). Pegmatites from the Turkestan Ridge frequently contain phosphate minerals. The new minerals are found in muscovite-microcline pegmatite of Kyrk-Bulaka, assoc. with triphylite, arrojadite, and their alteration products. Magnesiophilite is $3(\text{Mn, Fe, Mg})\text{O} \cdot \text{P}_2\text{O}_5$, in salmon-pink-colored prismatic crystals. The mineral is intimately intergrown with triphylite, in biotite schist xenoliths of the pegmatite. Pyrite, chalcopyrite, and pyrrhotite are often included. The forms: (100), (010), (110), and subordinate (101) were present. The intergrowth with triphylite is oriented \perp to the elongation and (010) in network-like arrangements, with the characteristic angle of 90° ; the extinction is parallel. The planes of the optical axes coincide in both minerals, but the acute bisectrices (α and γ resp.) form an angle of 30 to 45° . Magnesiophilite is optically pos., $2V = 45 - 48^\circ$; $n_x, \gamma = 1.712$; $\beta = 1.700$; $\alpha = 1.695$, all ± 0.001 ; colorless in thin sections. The mineral is rather similar to gaffonite, but CaO is entirely absent, and MgO high; the magnesiophilite is thus the Mg analog of lithiophilite, $\text{Li}(\text{Mn, Fe})\text{PO}_4$. The d -spacings of the powder diagram are given. Manganokoniinite is a hypergenic metasomatic product in the oxidation zone of the pegmatites. The new mineral is earthy, extremely fine-cryst.; the aggregates are pinkish violet or blue. The n is about 1.68 to 1.70, d , 2.05 when heated, the mineral loses much H_2O (8% below, 21.1% above 110°). The chem. analysis is in agreement with the compn. (Fe, Mn) $\text{PO}_4 \cdot 3\text{H}_2\text{O}$. W. Fietel

1951

BEUS, H. H.

USSR.

New phosphate minerals from pegmatites of the Turkestan ranges. A. A. Feys. *Trudy Mineralog. Musiya, Akad. Nauk S.S.S.R.* No. 3, 29-30 (1951).—The microcline-muscovite and albite-spodumene pegmatites of the Turkestan ranges contain developments of interesting minerals. Crystals of triphylite from Kyrk-Bulak show the forms {010}, {001}, {110}, {120}, {101}, {021}, of pseudo-hexagonal habit. D. 3.311; excellent cleavage parallel {001} and {010}, poor parallel {110}. Optically neg., $2V 10-26^\circ$; plane of the optical axes is {100}; $b = \gamma$; $a \approx 2$; $c \approx a$; $\gamma = 1.700-1.708$; $\rho = 1.700-1.705$; $\alpha = 1.692-1.695$. The chem. analysis shows the compn. to be $LiFePO_4$, 64%, $LiMnPO_4$, 13%, and magniophilite (Mn, Fe, Mg)(PO_4), (I) 24%. This indicates the replacement of Li^+ and Fe^{++} by Mg^{++} . The pegmatites show lithiophilite in the central parts, assoc. with cleavelandite, followed by a zone of triphylite, and this mineral bordered by sicklerite (optically neg.; $\gamma = 1.738$; $\alpha = 1.714$), which is changed to heterosite on cracks. The complete removal of Li^+ brings about the crystn. of secondary Li tourmaline in the albitized zone. Biaxial Mn apatite (with $\gamma = 1.689$; $\rho = 1.682$; $\alpha = 1.678$) is assoc. with the lithiophilite. Heterosite is

cover)

BELLS

the oxidation product with removal of Li from triphylite; α : 3.410, $2V = -80^\circ$, strong pleochroism in brown-red colors; optical axes plane is (100). I, however, is not replaced by heterosite, but remains fresh. The chem. analysis shows Mn_2O_3 9.25%, and MgO 1.34%. I is a new mineral, observed in intimate intergrowth with triphylite; color salmon-rose, fatty luster, poor cleavage, often with inclusions of sulfides. Forms {100}, {010}, {110}. The regular intergrowth with triphylite shows on cross sections perpendicular to the prismatic elongation a pseudohexagonal network with lamellae intersecting at 60° , with identical orientation and extinction in the lamellae of I. Plane of optic axes is (100); optically pos., $2V = 42-50^\circ$; the acute bisectrix of I includes an angle of $30-45^\circ$; $\gamma = 1.712$; $\beta = 1.700$; $\alpha = 1.695$. The x-ray data are somewhat different from those of graptolite (Nickel Plate). The chem. analysis shows MgO 9.50%, but only 0.54% CaO . Arrojadite (II), MgO -rich, is observed in characteristic reaction rims between triphylite and albite, sometimes in well-developed crystals with {100}, {010}, {110}; hardness 5, excellent cleavage in one direction, extinction nearly parallel (2° to 4° deviation); $\gamma = 1.720$; $\alpha = 1.708$; $2V = 72^\circ$; weak pleochroism parallel γ , dark-green parallel α , and β somewhat brighter green. The chem. analysis corresponds to the ratio $(RO + R_2O):(P_2O_5) = 3:1$, with 5.08% Na_2O , and

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A.A. BEVS

only 0.6% H₂O+. The assumed compn. in an isomorphous series R₁PO₄ - R₂PO₄ and R₁R₂(PO₄)₂ is given in the tentative formula 2Na(Mn,Fe)PO₄·2/3(Fe,Mg,Mn)₂(PO₄)₃ for the Turkestan occurrence of II. Mn strengite, (Mn,Fe)PO₄·2H₂O, and Mn koninckite, (Fe,Mn)PO₄·3H₂O, are found in red-violet formations on triphylite and heterosite. The Mn strengite has the cleavages (001) and (100) of different qualities, hardness 3.5, a peculiar pleochroism in violet-blue colors; plane of the optic axes (100); 2V = 42°, optically pos., strong dispersion r > s; γ = 1.740; β = 1.710; α = 1.708. The Mn koninckite forms clay-like violet-colored aggregates with n_s 1.68-1.70, strongly pleochroic; d. 2.65. It is derived from heterosite by simple hydration. Palatite, 2H₂(Mn,Fe)₂(PO₄)₃·3H₂O, is changed by oxidation to a mixt. of manganite, and Mn strengite, which in turn is changed by hydration to Mn koninckite. Palcrite (hureaulite) forms red-colored, rounded aggregates in paragenesis with triphylite and black tourmaline; optically neg., 2V = 82°; γ = 1.658; β = 1.650; α = 1.649. Vashegyite, 4Al₂O₃·3P₂O₅·30H₂O; gordonite, MgO·Al₂O₃·P₂O₅·9H₂O, and evansite, 3(Al,Fe)₂O₃·P₂O₅·17 1/2 H₂O, are observed in the muscovite-microcline pegmatites in small amygdules, surrounding triphylite and Mn koninckite nests. Vashegyite is dense, white, hardness 3; d. 1.90-1.92; isotropic, n = 1.498-1.500. Gordonite in small tabular crystals.

(over)

n. n. *4/4*
tals is assoc. with vashegyite; biaxial, pos., $\gamma = 1.554$;
 $\alpha = 1.530$; $2V = \text{approx. } 80^\circ$. Evansite is observed in the
central parts of the anhydrites, colloidal, opal-like, colored
by contaminations of Fe_2O_3 , MnO_2 , etc., isotropic, n strongly
variable with the Fe content, from 1.404 to 1.492; d , var-
iable between 1.85 and 1.95.
W. Eitel

BEUS, A. A.

USSR/Minerals - Pegmatites

Nov/Dec 51

"Zonation of Granitic Pegmatites," A. A. Beus

"Iz Ak Nauk SSSR, Ser Geol" No 6, pp 87-102

Beus classifies pegmatite zones in his description of zonation of granitic pegmatites and concludes by agreeing with his predecessors that pegmatites are products of magma crystn, enriched with volatile components.

205T86

BEUS, A. A.

"The Isomorphism of Beryllium in Regard to Phenomena of Its Dispersion and Concentration," Dokl. AN SSSR, 90, No.3, pp 425-28, 1953

There is a connection between the phenomena of dispersion and conc of Be and the character of heterovalent isomorphism which is detd by the possibility of isomorphic inclusion of Be in the lattices of rock-forming silicates. The inclusion of some cations (Ti, Mg, etc.) from other rocks in the process of mineral formation enhances the possibility of the inclusion of Be in the lattices of rock-forming mineral and leads to a 5-to-10-fold increase of Be in the silicates of skarns and pegmatites of pure origin. Presented by Acad. D, S. Belyankin 23 Mar 53.

260T14

62-115, 11

Origin of the zoning of granite pegmatites. A. A. Beu.
Doklady Akad. Nauk S.S.S.R. 97, 129-32(1957). ~~For the~~
 special group of the microcline and albite pegmatites, a
 scheme is proposed which shows the zonal structure of granite
 pegmatites in general in the 3 stages of I epimagmatic, II
 pneumatolytic-magmatic, and III hydrothermal-pneuma-
 tolytic mineralization. B. does not think that magmatic
 differentiation is the leading principle in developing pegma-
 tites from granite magmas, but speaks of their origin by
 eutectic crystn. The geol. factors ruling these stages are
 the level of the injection, the tectonic conditions initiating
 the injection and crystn., and the local conditions, shape,
 and size of the pegmatite bodies. B. det. also the degree of
 the relative limits of the system in the different stages, and
 especially the possibility of the protrusion of volatiles in the
 vertical direction of the pegmatite injections. For every
 one of the 3 stages it is shown how feldspars are enriched in
 the solid phase, in I in graphic eutectic intergrowths, and
 coarse-grained feldspar bodies, in II as massive microcline,
 assoc. with beryl, and apodumenc, and late perthitic and
 muscovitic crystns., in III with massive quartz (by hydroly-
 sis), and late albitization, greisen, and lepidolization as
 replacement phenomena. It shows the equilibria of mag-
 matic distn. in the meaning of Nikolaev (cf. *C.A.* 39, 4031)
 from supercritical, III that of super- or undercrit. soln. of
 the hydrothermal type.
 W. Burs

Beils, A. A.

Geochemical distribution coefficient of beryllium in granite pegmatites. A. A. Beils and S. N. Fedorchuk. Doklady Akad. Nauk SSSR, 1984, 108-11(1985), cf. C.A. 49, 11511g. Typical Be minerals are found in the late-magmatic pegmatites, assocd. with feldspars and micas (muscovite, lepidolite). The early stages of pegmatitization are usually low in Be (0.0001 to 0.0002 %), in graphic granites with microcline, e.g. in the granites of the Shitomir-Kirovograd area in Ukraine. Beryllium is in these early pegmatite formations "captured" in the feldspars, by a coupled ionic replacement of the type $(K, Na)^+ + [SiO_4]^{4-}$ by rare earth elements $^{3+} + [BeO_4]^{4-}$, or $2Ca^{2+} + [SiO_4]^{4-}$ by 2 rare earth elements $^{3+} + [BeO_4]^{4-}$. The increasing contents of the later pegmatites of the "pure line" in rare earths are usually accompanied by the appearance of Be in garnet, spodumene, tourmaline, gilbertite, apatite, muscovite, lepidolite, with 0.0016 to 0.0126 % Be. In pneumatolytic pegmatites, the contents in Be are particularly enriched, e.g. in margarite (0.43 to 0.67% Be), phlogopite (0.025 to 0.0300%), and typical Be minerals occur in such formations either of contact-metasomatic and pneumatolytic type, characterized by enrichments in Ti, Cr, Mg, which are foreign to the granitic pegmatites of the "pure line," or with high contents in F $^-$, e.g. in micas, with the coupled ionic replacements $Si^{4+} + 2(OH)^-$ by $Be^{2+} + 2F^-$. With such variable conditions of the enrichments in Be, it is very difficult to det. a general geochem. distribution coeff. for Be. A tolerable estn. for pegmatites may be about 0.0020% Be. But this coeff. varies in rather wide limits for pegmatites which are free from rare earth minerals (not albitized), pegmatites with minerals contg. rare earths, but no beryl, and pegmatites with beryl concns. of 0.01 to 0.1%, or even 0.2 to 2.5% beryl.

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GP

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W. Eitel

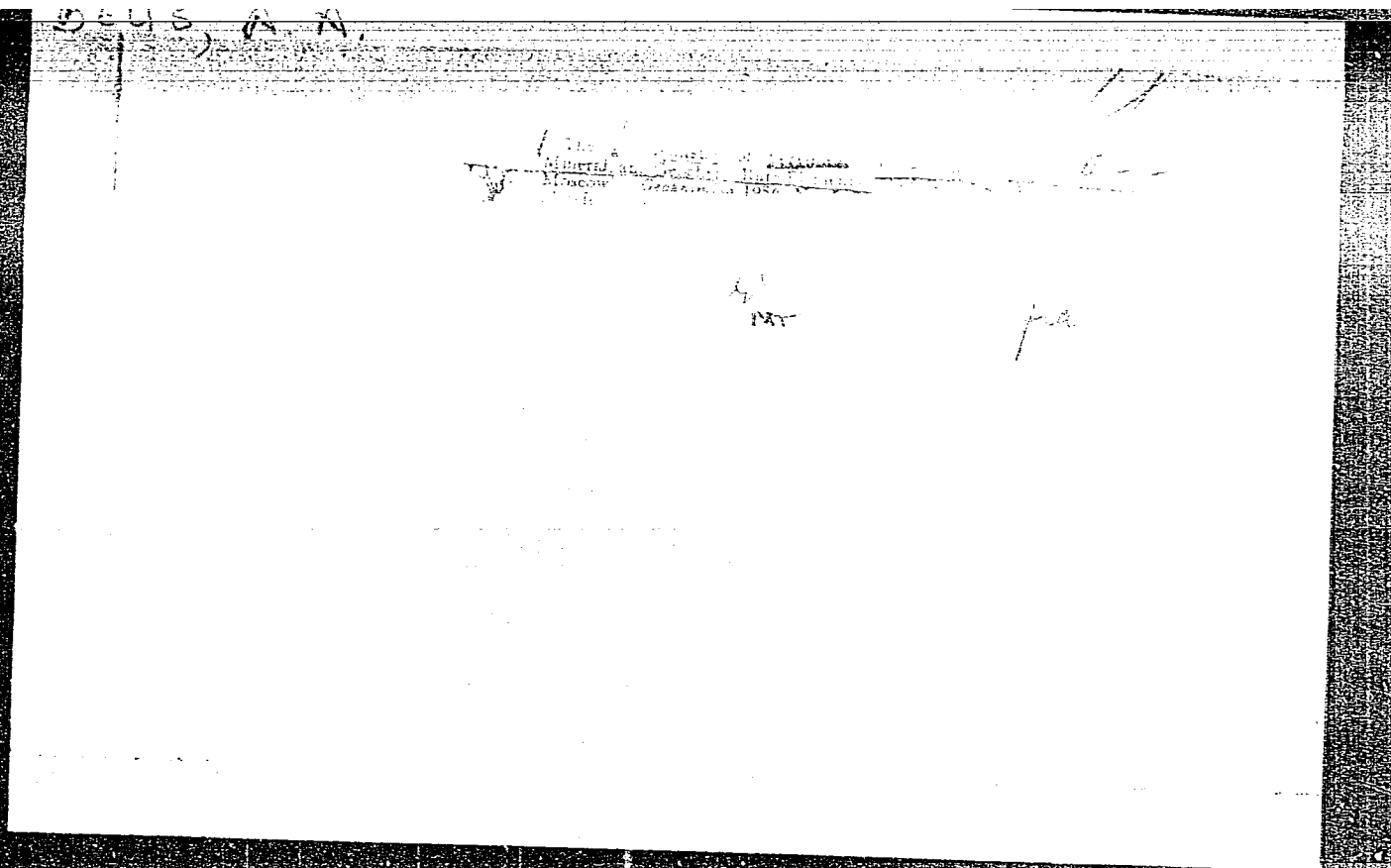
Laboratoriya mineralogii i geokhimi redkikh elementov
akademii nauk SSSSR. Predstavleno akademikom D. I. Shcherbakovym.

BEUS, Aleksey Aleksandrovich; STEPANOV, I.S., redaktor; SEMENOVA, M.V.,
redaktor; LBYNOCHKINA, K.V., tekhnicheskii redaktor.

[Beryllium; appraisal of deposits in prospecting] Berillii; otsenka
mestorozhdenii pri poiskakh i razvedkakh. Moskva, Gos.nauchno-tekhn.
izd-vo lit-ry po geologii i okhrane neдр, 1956. 147 p. (MLRA 9:5)
(Beryllium)

Peculiarities of isomorph entry of beryllium into the crystalline structure of minerals. A. A. Bezug. *Geokhimiya*, 1958, No. 1, pp. 87-91. The peculiarities of isomorph entry of Be into the crystalline structure of minerals, as determined by the structure and properties of its ion, were examined. A limited isomorphism of beryllium with silicon has been proved possible, on condition that electrostatic equilibrium is retained (a) in the cation part, by way of a parallel entry into the structure of some high valence cation (Zr, Ti, etc., in feldspars, garnet, steenstrupine, chondrodite, etc.) in place of monovalent and divalent cations, and (b)

in the anion part, by replacing $(\text{SiO}_4)^{4-}$ by $(\text{BeO}_4)^{4-}$ (margarite, muscovite, phlogopite, vesuvianite, orthite, etc.). Examples of isostructural isomorphism of beryllium compounds with silicates (willemite, calamine, cordierite, forsterite, crysothorite, etc.), and borosilicates (homilite, datolite) are known. With bavenite as an example, the possibility of a beryllium-aluminum isomorphism has been demonstrated. Data are given on the analysis of beryllium-containing garnet, beryllium steenstrupine, beryllium titanochondrodite, beryllium vesuvianite, and beryllium orthite. 23 references. D.E.W.



15-57-4-4594

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4,
pp 85-86 (USSR)

AUTHORS: Beus, A. A., Zalashkova, N. Ye.

TITLE: The Origin of the Sodium Variety of Beryl in Granite
Pegmatites (O genezise nitriyevoy raznovidnosti berilla
v granitnykh pegmatitakh)

PERIODICAL: Mineralog. sb. L'vovsk. geol. o-vo pri un-te, 1956,
Nr 10, pp 273-287.

ABSTRACT: Crystals and intergrowths of sodium beryl are most
common in partially albitized pegmatites. They are
characterized by tapered or acutely pyramidal features.
The tapered and pyramidal crystals are aggregates of
intimately intergrown individual crystals. In addition
to the massive varieties, "stuffed" crystals are widely
developed. The principal features of these "stuffed"
crystals are inclusions of albite, quartz, more rarely
muscovite, tourmaline, and microcline. The "stuffed"
crystals are complex formations, consisting of a number

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15-57-4-4594

The Origin of the Sodium Variety of Beryl in Granite (Cont.)

of uniformly oriented, intimately intergrown individual crystals of distinctive tabular form. In all the deposits studied, the tapered sodium beryl is characteristic of an albite-replaced complex that formed in blocky-microcline or coarse-grained pegmatite that consists of pegmatoidal segregations of potash feldspar and quartz. When albitization is superimposed on a zone of graphic pegmatite or on coarse-grained pegmatite of relict graphic structures, "stuffed" tapered sodium beryl is formed rather than the massive tapered variety. Locally there is a gradual transition into a later variety consisting of thin prisms. The largest accumulations of the "stuffed" beryl are found in pegmatoidal bodies where the zone of graphic or relict graphic pegmatite is immediately next to the quartz-microcline core of the pegmatite or next to the zone of quartz-muscovite replacement complex that surrounds the core. In the beryl-bearing zone, the "stuffed" sodium beryl is distributed rather uniformly. Both the massive and "stuffed" sodium beryl are probably of metasomatic origin. They formed by the replacement of microcline by the action of beryllium-bearing alkaline solutions,

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The Origin of the Sodium Variety of Beryl in Granite (Cont.) 15-57-4-4594

separated in the crystallization process from the residual silica-rich part of the pegmatitic melt-solution.

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G. A. G.

BEUS, A.A.
USSR/Cosmochemistry Geochem stry. Hydrochemistry.

D

Abs Jour : Referat. Zhurnal Khimiya, No 6, 1957, 18894

Author : A.A. Beus, L.I. Sazhina

Inst :

Title : Concerning Berillium Contents in Acid Magmatic Rocks.

Orig Pub. : Dokl. AN SSSR, 1956, 109, No 4, 807-810.

Abstract : Berillium contents were spectroscopically determined in 300 mean samples, individual specimens and rock forming minerals from various granite ranges of USSR (mean samples were prepared each from 15 to 30 separate samples taken within the limits of a range) Samples containing less than $3 \times 10^{-4}\%$ Be were analyzed using the Morin fluorometric method. Following limits were obtained for granite rocks: $2 - 32 \times 10^{-4}$; the mean value 5×10^{-4} exceeds the values obtained by Goldschmidt (3.6×10^{-4}) and Sandell (3×10^{-4}) using a comparatively small number of specimens. Distribution of Be in rock forming minerals (according to 4 or 5 determinations, in %): feldspars $1 - 10 \times 10^{-4}$, quartz $\leq 2 \times 10^{-5}$, micas and hornblende from 1×10^{-4} (biotite) to 5×10^{-3} (muscovite). Increased

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BEUS, A.A.

[Basic characteristics of beryllium geochemistry and genetic types of beryllium deposits; abstract of a dissertation for the degree of doctor of geological and mineralogical sciences] Osnovnye cherty geokhimii berillia i geneticheskie tipy berillievykh mestorozhdenii; avtoreferat dissertatsii, predstavlennoi na soiskanie uchenoi stepeni doktora geologo-mineralogicheskikh nauk. Moskva, Akad. nauk SSSR, 1957. 38 p. (MIRA 11:11)
(Beryllium)

BEUS, A. A. Doo Geol-Min Sci -- (diss) "Basic features of geochemistry of beryllium^g and genetic types of beryllium deposits." Mos, 1957. 40 pp
(Acad Sci USSR. Inst of ^{the} Mineralogy, Geochemistry, and Crystallochemistry of Rare Elements), 150 copies (KL, 42-57, 91)

-11-

BEUS, A.A.

Concerning S.T. Badalov's article "Results of the study of
hydrothermal helvite." Izv. AN Uz. SSR. Ser. geol. no.2:85 '57.
(MIRA 11:9)

(Helvite)

Beus, A.A.

AUTHOR: Beus, A.A.

11-8-1/14

TITLE: Geochemistry of Beryllium in Granitic Pegmatites (K geokhimii berilliya v granitnykh pegmatitakh)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 8, p 3-15 (USSR)

ABSTRACT: The author discusses some problems in geochemistry of beryllium in granitic pegmatites and distribution of beryllium in pegmatite deposits. The author defines the concept of "pegmatite injection" as a series of pegmatite formations of the same age connected with the same pegmatite seat and occupying a certain position in the tectonic structure of a region. Individual pegmatite bodies of the injection can be either interconnected or completely isolated along the vertical direction. The horizontal zonation of a pegmatite field does not exist by itself, but represents a reflection of the vertical zonation of a pegmatite injection. The character of the vertical zonation is closely interconnected with the geologic position of the pegmatite formations, the components of an injection. This character of the vertical zonation is one of the main factors which determine the distribution of rare-metal mineralization, including beryllium within the boundaries of a peg-

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Geochemistry of Beryllium in Granitic Pegmatites

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matite injection. Beryllium minerals do not occur, as a rule, in the roots of the pegmatite injection. Beryl accumulations are associated with the zones of block pegmatites (in small-block pegmatites) and with the boundary zones of the block quartz (in large-block and entirely differentiated pegmatites). The concentration of the main beryllium mineral, beryl, in the converted pegmatites varies in wide ranges, sometimes up to 0.6 to 1 %. The beryllium in a pegmatite injection is accumulated in the well differentiated pegmatite bodies of the middle horizon of the injection, and especially in the upper horizons. A principal factor which determines the concentration of beryllium in pegmatites is the process of crystallization differentiation, which is of special significance during the early phases of pegmatite origination. The main assertions of the theory of phase crystallization are as follows:

1. Pegmatites are formed as a result of the phase crystallization of the pegmatite molten mass which is a product of a normal granitic molten mass enriched with volatile substances.
2. The crystallization of the molten mass occurs in a relatively closed system.
3. Phenomena of replacement, typical for pegmatites, are considered as results of interaction of the paragenetic com-

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Geochemistry of Beryllium in Granitic Pegmatites

11-8-1/14

plexes of the primary crystallization with emanations (and solutions) which separate from the pegmatite molten solution in the process of its crystallization.

A scheme of the formation of granitic pegmatite zonation is illustrated in Fig. 1 in the article which shows the following 3 phases: epigmatic, pneumato-magmatic, and hydrothermal-pneumatolytic phases. In the course of evolution of the pegmatite process, the separation of beryllium occurs. One part of beryllium, contained in the pegmatite molten solution, is crystallized directly out of the residual silicate solution (non-alkaline modification). The other part, by far the greater one, is captured by the alkaline emanations and solutions, migrates into various sections of the pegmatite body, and precipitates into the solid phase as an alkaline modification of beryl. The author then discusses various possible forms of beryllium migration. Studies of beryllium distribution in pegmatites resulted in the establishment of the average beryllium contents as being 0.002 %. It is observed that beryllium occurs in a constant paragenesis with such rare elements as niobium, tantalum, zirconium, which are connected with the activity of alkaline emanations and solutions.

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. Geochemistry of Beryllium in Granitic Pegmatites

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The article contains 2 figures, 1 table and 18 references,
13 of which are Slavic.

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BMUS, A.A.

Beryllian idocrase. Trudy Min. muz. no.8:25-28 '57. (MIRA 11:3)
(Idocrase)

AUTHOR: Beus, A. A.

SOV/ 7-58-4-3/13

TITLE: The Rôle of Complex Compounds in the Transport and Concentration of Rare Elements in Endogenous Solutions
(Rol' kompleksnykh soyedineniy v perenose i kontsentratsii redkikh elementov v endogennykh rastvorakh)

PERIODICAL: Geokhimiya, 1958, Nr 4, pp. 307 - 313 (USSR)

ABSTRACT: Complex compounds influence the transport and the formation of endogenous minerals, above all in the case of the rare elements which are typically amphoteric (Be, Zr, Hf, Nb, Ta, and others), or very weak bases (Sc, SE and others). In the case of high concentration of strong bases and acids complex compounds (acidocomplexes) are the most probable form for these elements, in aqueous as well as in supercritical solution. Fluorine, chlorine, (CO_2) , HCO_3^- and above all phosphate may be complex formers. Such a complex may be decomposed by reaction of the dissociated ions with other components of the solution and by hydrolysis. Elements with similar chemical properties are separated, if the complexes are of different stability; on the other hand che-

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The Role of Complex Compounds in the Transport and Concentration of Rare Elements in Endogenous Solutions

mically different elements may precipitate together if the acidocomplexes have a similar stability. Such a separation is found in the case of columbium and tantalum, the rare earths of the cerium- and yttrium group and some others; the common precipitation of elements is illustrated by the close paragenesis of beryllium, columbite, and cyrtolite (Be, Nb, Zr), in granite pegmatites, of pyrochlorine and circonium (Nb, Zr) in albitized alkaline rocks, of columbite and circonium (Nb, Zr) in albitized granite porphyries etc. Whether a further investigation of this problem is successful depends on the fact that the complex compounds of the rare elements are investigated experimentally and material is collected on the composition of gaseous-liquid inclusions in minerals of rare elements. There are 12 Soviet references.

ASSOCIATION: Institut mineralogii, geokhimii i kristalloghimii redkikh elementov AN SSSR, Moskva
(Moscow Institute of Mineralogy, Geochemistry and Crystal Chemistry of Rare Elements AS USSR)

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SOV/7-58-4-3/13
The Role of Complex Compounds in the Transport and Concentration of Rare
Elements in Endogenous Solutions

SUBMITTED: April 11, 1958

1. Rare earth elements--Separation 2. Complex compounds--Chemical
reactions 3. Solutions--Chemical properties

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Beus, A. A.

RUMANIA / Cosmochemistry, Geochemistry, Hydrochemistry. D

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60463.

Author : A. A. Beus.

Inst : -

Title : Geochemistry of Berillium.

Orig Pub: An. Rom.-Sov. Ser. geol.-geogr., 1958, 12, No 1,
44-63.

Abstract: Translation. See RZhKhim, 1958, 7427.

Card 1/1

BEUS, A. A. Doc Geol-Min Sci -- (diss) "Basic features of the geochemistry of beryllium, and the genetic types of beryllium deposits." Mos, 1959. 40 pp; 1 sheet of tables (Acad Sci USSR. Inst of Mineralogy, Geochemistry and Crystal Chemistry of Rare Elements), 250 copies ^{List} of author's works at end of text (15 titles) (KL, 52-59, 117)

BEUS, A.A.; STEPANOV, I.S., nauchnyy red.; NEKRASOVA, N.B., red.izd-va;
IVANOVA, A.G., tekhn.red.

[Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia;
spravochnik dlia geologov. Izd.2., perer. Moskva, Gos.nauchno-
tekhn.izd-vo lit-ry po geologii i okhrane neдр. No.36. [Beryllium].
Berillii. Nauchn.red. I.S.Stepanov. 1959. 35 p.

(MIRA 13:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mine-
ral'nogo syr'ya.

(Beryllium)

SINDEYEVA, Nina Dmitriyevna; BEUS, A.A., doktor geol.-mineral.nauk,
otv.red.; SIMKIN, S.M., red.izd-va; KUZ'MIN, I.F., tekhn.red.

[Mineralogy, types of deposits, and basic geochemical characteristics of selenium and tellurium] Mineralogiia, tipy mestorozhdenii i osnovnye cherty geokhimii selena i tellura. Moskva, Izd-vo Akad.nauk SSSR, 1959. 254 p. (MIRA 13:2)
(Selenium) (Tellurium)

BEUS, A.A.

Basic characteristics of the geochemistry of beryllium in the
hydrothermal-pneumatolytic process. Trudy Inst.min., geokhim.i
kristalokhim.red.elem. no.2:7-18 '59. (MIRA 15:4)
(Beryllium)

3(8)

AUTHOR:

Beus, A. A.

SOV/7-59-3-10/13

TITLE:

Discussions (Diskussiia). On the Position of Alkali Metals in the Structure of Beryl (O polozhenii shchelochnykh metallov v strukture berilla)

PERIODICAL:

Geokhimiya, 1959, Nr 3, pp 278-281 (USSR)

ABSTRACT:

The position of alkalies in the lattice of beryl has hitherto not been explained. The alkali oxide content attains a percentage of up to 7.23 %. Ingress into the channels of the lattice and valence adjustment by aluminum in silicon position (Ref 2) is not possible because in alkali beryls no increased aluminum content is found. Replacement of 1 Be^{++} by 2 Na^+ , K^+ , Li^+ or Cs^+ (Ref 3) is, seen from a crystallochemical point of view, most improbable. To this the author expresses the opinion that eight-coordinated aluminum partly enters into the four-coordinated beryllium places and that lithium and sodium take the place of eight-coordinated aluminum, the other alkalies entering the channels for valence-adjustment. That Na in this case may also enter for Al, may be seen from the example of milarite, which has a similar structure. For the purpose of

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